Atomic Gravity Gradiometer for Earth Gravity Mapping and Monitoring Measurements

Completed Technology Project (2011 - 2015)

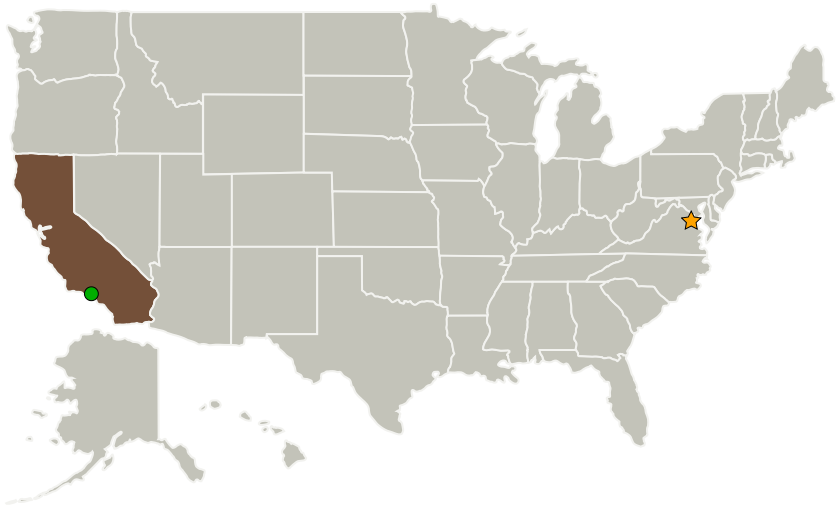
Project Introduction

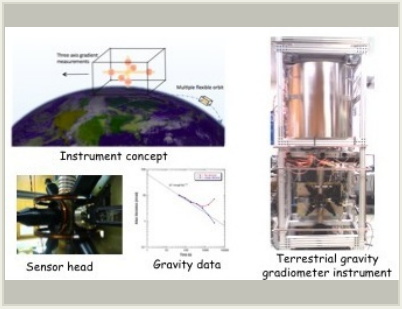
Verify the atomic gradiometer technology through
a) Achieving beyond state-of-the art performance with terrestrial instrument
b) Testing space operation mode in laboratory simulated microgravity
c) Conducting error budget analysis for an atomic gradiometer measurement in space
d) Development of this technology will enable highspatial resolution measurements of time-varying gravity from an atomic gradiometer on a singlesatellite platform

Anticipated Benefits

GRACE-II

Primary U.S. Work Locations and Key Partners





Project Image Atomic Gravity Gradiometer for Earth Gravity Mapping and Monitoring Measurements

Table of Contents

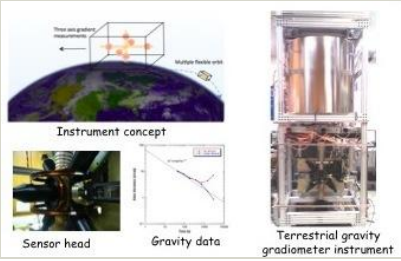
Atomic Gravity Gradiometer for Earth Gravity Mapping and Monitoring Measurements

Completed Technology Project (2011 - 2015)

Organizations Performing Work	Role	Type	Location
★NASA Headquarters(HQ)	Lead Organization	NASA Center	Washington, District of Columbia
●Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations
California

Images



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Project Image Atomic Gravity Gradiometer for Earth Gravity Mapping and Monitoring Measurements
(https://techport.nasa.gov/image/1568)

Organizational Responsibility

Responsible Mission Directorate:
Science Mission Directorate (SMD)

Lead Center / Facility:
NASA Headquarters (HQ)

Responsible Program:
Earth Science

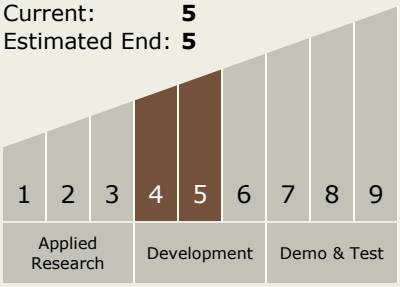
Project Management

Program Director:
George J Komar

Principal Investigator:
Nan Yu

Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

Continued on following page.

Atomic Gravity Gradiometer for Earth Gravity Mapping and Monitoring Measurements

Completed Technology Project (2011 - 2015)

Technology Areas *(cont.)*

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destination

Earth